

WA4101-Cradle  
IEEE 802.11b/g Cradle Access Point  
Quick Installation Guide



WA4101-Cradle  
E102006-EK-R01  
150200028900E

INTRODUCTION

WA4101-Cradle is an IEEE 802.11b/g (Wi-Fi) access point that provides a quality wireless Voice over Internet Protocol (VoIP) service for Wi-Fi phones, and high-speed data communications between internet and other 802.11b/g mobile devices. WA4101-Cradle also includes a cradle for charging an Edge-Core Wi-Fi phone.

The access point software provides two “virtual” wireless interfaces that can be used to separate different types of network traffic. Both wireless interfaces provide gateway functions, such as a DHCP server and Network Address Translation (NAT), that route data from wireless clients to the wired network. In addition, the access point offers full network management capabilities through an easy-to-use web interface.

Package List

The 802.11b/g Access Point package includes:

- WA4101-Cradle
- RJ-45 Category 5 network cable
- AC power adapter
- This Quick Installation Guide
- User Guide CD

Inform your dealer if there are any incorrect, missing or damaged parts. If possible, retain the carton, including the original packing materials. Use them again to repack the product in case there is a need to return it.

INTRODUCTION

Ethernet Port

The access point has one 10BASE-T/100BASE-TX RJ-45 port that can be attached directly to 10BASE-T/100BASE-TX LAN segments. These segments must conform to the IEEE 802.3-2005 specifications. This port supports automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs, switches, or hubs.

Power Socket

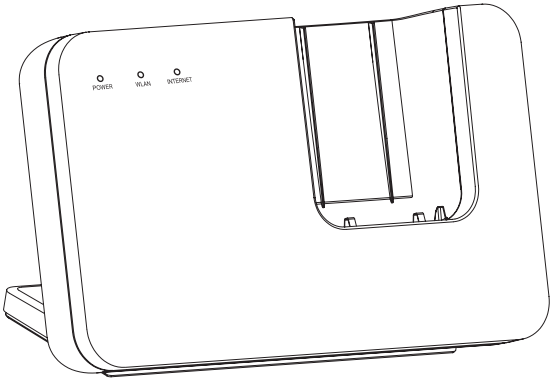
The access point does not have a power switch. It is powered on when connected to the AC power adapter, and the power adapter is connected to a power source. The power adapter automatically adjusts to any voltage between 100-240 volts at 50 or 60 Hz. No voltage range settings are required.

Reset Button

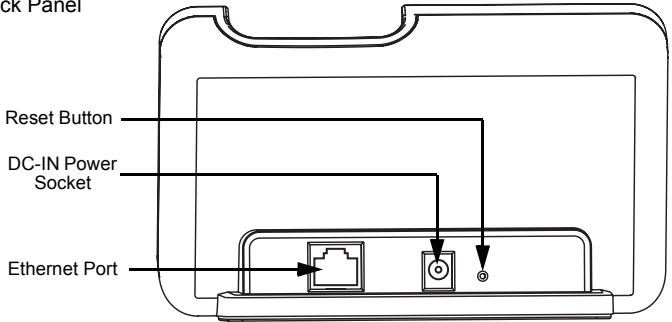
The Reset button can be used to restart the access point or restore the factory default configuration. If you press the button for less than 5 seconds, the access point will restart. If you press and hold down the button for 5 seconds or more, any configuration changes you may have made are removed and the access point is restored to its factory default configuration.

Hardware Description

Front Panel

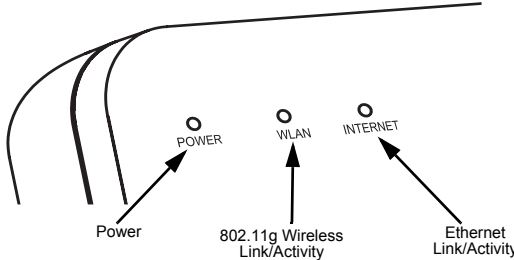


Back Panel



LED Indicators

The access point includes three status LED indicators, as described in the following figure and table.



LED	Status	Description
POWER	On Green	Indicates that the system is working normally.
WLAN	On	Indicates the 802.11g radio is enabled and transmitting or receiving data through wireless links. The flashing rate is proportional to network activity.
	Off	Indicates the 802.11g radio is disabled.
INTERNET	On/Flashing Green	Indicates a valid link on the Ethernet port and that the access point is transmitting or receiving data. The flashing rate is proportional to network activity.
	Off	The Ethernet port has no valid link.

HARDWARE INSTALLATION

To install the Access Point, follow these steps:

1. **Select a Site** – Choose a proper place for the access point. For optimum performance, consider these points:
  - Mount the access point as high as possible above any obstructions in the coverage area. Avoid mounting next to or near building support columns or other obstructions.
  - Mount away from any signal absorbing or reflecting structures (such as those containing metal).
  - Avoid radio interference by mounting away from other 802.11b or g wireless devices.
2. **Mount the Access Point** – The access point is designed to be mounted on any horizontal surace, such as a desktop.
3. **Connect the Power Cord** – Connect the power adapter to the access point, and plug the power adapter into an AC power outlet.

**Caution:** Use ONLY the power adapter supplied with the access point. Otherwise, the product may be damaged.

4. **Observe the Indicator LEDs** – When you power on the access point verify that the POWER LED turns on and that the other LED indicators start functioning as described under "LED Indicators".
5. **Connect the Ethernet Cable** – The access point can be connected to any 10 or 100 Mbps Ethernet network device, such as a cable or

ADSL modem, or a network switch. Connect your network to the RJ-45 port on the back panel using category 3, 4, or 5 UTP Ethernet cable. When the access point and the connected device are powered on, the INTERNET LED should turn on indicating a valid network connection. If the INTERNET LED fails to turn on, refer to “Troubleshooting”.

**Note:** The RJ-45 port on the access point supports automatic MDI/MDI-X operation, so you can use straight-through cables for all network connections to PCs, switches, or hubs.

Access Point Configuration

The access point can be configured from a wireless client or by connecting a PC directly to its Ethernet port. The web management interface can be accessed using the default IP address 192.168.1.254 through a wireless connection, or 192.168.2.1 through a wired connection. The default login user name and password is “Edge-Core”.

For more information, refer to the *User Guide*.

## TROUBLESHOOTING

### Diagnosing Access Point Indicators

Troubleshooting Chart	
Symptom	Action
POWER LED is Off	<ul style="list-style-type: none"><li>AC power adapter may be disconnected. Check connections between the access point, the power adapter, and the wall outlet.</li></ul>
WLAN LED is Off	<ul style="list-style-type: none"><li>The access point's radio has been disabled through it's web management interface. Access the management interface using a web browser to enable the WLAN radio. (Refer to the Management Guide for more information.)</li></ul>
INTERNET LED is Off	<ul style="list-style-type: none"><li>Verify that the access point and attached device are powered on.</li><li>Be sure the cable is plugged into both the access point and corresponding device.</li><li>Verify that the proper cable type is used and its length does not exceed specified limits.</li><li>Check the cable connections for possible defects. Replace the defective cable if necessary.</li></ul>

For information on troubleshooting wireless connectivity issues, refer to the *User Guide*.

## COMPLIANCES

### Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**FCC Caution:** Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### IMPORTANT NOTE:

#### FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters (8 inches) between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

IEEE 802.11b or 802.11g operation of this product in the U.S.A. is firmware-limited to channels 1 through 11.

### EC Conformance Declaration

Marking by the above symbol indicates compliance with the Essential Requirements of the R&TTE Directive of the European Union (1999/5/EC). This equipment meets the following conformance standards:

- EN 60950-1 (IEC 60950-1) - Product Safety
- EN 300 328 - Technical requirements for 2.4 GHz radio equipment
- EN 301 489-1, EN 301 489-17 - EMC requirements for radio equipment

This device is intended for use in the following European Community countries:

- |           |              |               |
|-----------|--------------|---------------|
| • Austria | • Belgium    | • Denmark     |
| • Finland | • France     | • Germany     |
| • Italy   | • Luxembourg | • Netherlands |

- |               |                  |            |
|---------------|------------------|------------|
| • Norway      | • Spain          | • Sweden   |
| • Switzerland | • United Kingdom | • Portugal |
| • Greece      | • Ireland        | • Iceland  |

Requirements for indoor vs. outdoor operation, license requirements and allowed channels of operation apply in some countries as described below:

- In Italy the end-user must apply for a license from the national spectrum authority to operate this device outdoors.
- In Belgium outdoor operation is only permitted using the 2.46 - 2.4835 GHz band: Channel 13.
- In France outdoor operation is only permitted using the 2.4 - 2.454 GHz band: Channels 1 - 7.

## CABLES AND PINOUTS

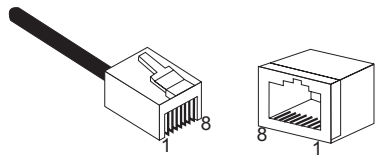
### Twisted-Pair Cable Assignments

For 10/100BASE-TX connections, a twisted-pair cable must have two pairs of wires. Each wire pair is identified by two different colors. For example, one wire might be green and the other, green with white stripes. Also, an RJ-45 connector must be attached to both ends of the cable.

**Caution:** Each wire pair must be attached to the RJ-45 connectors in a specific orientation. (See "Crossover Wiring" and "Crossover Wiring" for an explanation.)

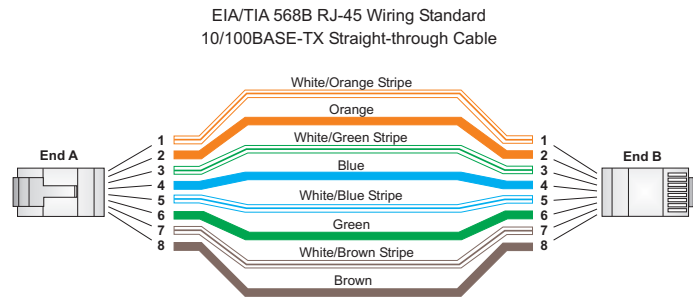
**Caution:** DO NOT plug a phone jack connector into the RJ-45 port. Use only twisted-pair cables with RJ-45 connectors that conform with FCC standards.

The following figure illustrates how the pins on the RJ-45 connector are numbered. Be sure to hold the connectors in the same orientation when attaching the wires to the pins.



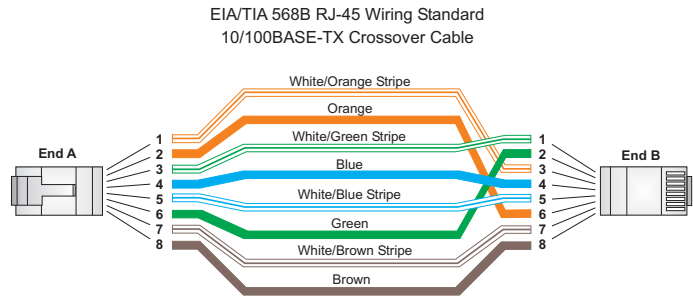
### Straight-Through Wiring

If the twisted-pair cable is to join two ports and only one of the ports has an internal crossover (MDI-X), the two pairs of wires must be straight-through.



### Crossover Wiring

If the twisted-pair cable is to join two ports and either both ports are labeled with an "X" (MDI-X) or neither port is labeled with an "X" (MDI), a crossover must be implemented in the wiring.



## SPECIFICATIONS

### Maximum Channels

FCC/IC: 1-11  
ETSI: 1-13  
France: 10-13  
MKK: 1-14  
Taiwan: 1-11

### Maximum Clients

32 per VAP interface

### Data Rate

802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps per channel  
802.11b: 1, 2, 5.5, 11 Mbps per channel

### Modulation Type

802.11g: CCK, BPSK, QPSK, OFDM  
802.11b: CCK, BPSK, QPSK

### Network Configuration

Infrastructure

### Operating Frequency

2.4 ~ 2.4835 GHz (US, Canada, ETSI)  
2.4 ~ 2.483 GHz (Japan)

### Wireless Output Power

802.11b: 19 dBm (typical)  
802.11g: 18 dBm @ 6 Mbps, 15 dBm @ 54 Mbps

### Wireless Receive Sensitivity

802.11b: -90 dBm @ 1 Mbps, -84 dBm @ 11 Mbps  
802.11g: -86 dBm @ 6 Mbps, -68 dBm @ 54 Mbps

### AC Power Adapter

Input: 100-240 VAC, 50-60 Hz  
Output: 5 VDC, 2 A

### Unit Power Supply

DC Input: 5 VDC, 2 A maximum  
Power Consumption: 6.5 W maximum

### Physical Size

14.7 x 9.2 x 7.7 cm (5.79 x 3.6 x 3.03 in)

### Weight

170 g (6 oz)

### LED Indicators

POWER (Power), INTERNET (Ethernet Link/Activity), WLAN (Wireless Link/Activity)

### Network Management

Web-browser

### Temperature

Operating: 0 to 40 °C (32 to 122 °F)  
Storage: -20 to 70 °C (-4 to 158 °F)

### Humidity

15% to 95% (non-condensing)

### Compliances

FCC Part 15B Class B  
VCCI ClassB  
EN 55022 Class B  
EN 55024  
EN 50385  
EN61000-3-2  
EN61000-3-3

### Radio Signal Certification

FCC Part 15C 15.247, 15.207 (2.4 GHz)  
EN 300-328  
EN 301 489-1  
EN 301 489-17  
ARIB STD-T66  
ARIB STD-33  
IC RSS-210

### Safety

EN 60950-1  
IEC 60950-1 (CB)

### Standards

IEEE 802.3-2005 10BASE-T, 100BASE-TX  
IEEE 802.11b, g  
Wi-Fi 11b/g, WPA, WPA2, WMM